EXHIBIT Q

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ENTROPIC COMMUNICATIONS, LLC, Plaintiff v. CHARTER COMMUNICATIONS, INC. Defendant.	Civil Action No. 2:22-cv-00125-JRG

DECLARATION OF DR. KEVIN ALMEROTH
REGARDING CLAIM CONSTRUCTION

probe being determined only by the parameters sent by the requesting node. This renders the claim indefinite. By definition, "parameters" define the form of the probe that will be generated. (*Id.*, 2:6.) If the "first plurality of parameters" alone determine the form of the probe, then the probe cannot be generated "in accordance with" the second plurality of parameters as required by this other limitation in the claims.

VII. THE '682 PATENT

A. The Disclosure of the '682 Patent

85. The '682 Patent is titled "Method And System For Service Group Management In A Cable Network." Pursuant to disclosed embodiments, a CMTS assigns each cable modem to a service group based on the cable modem's signal to noise ratio ("SNR") profile. The CMTS then uses a "composite worst-case SNR profile" for each service group to determine how it will communicate with the cable modems in each service group respectively. I will explain this below.

86. A SNR is the ratio of the signal level to the noise level. The higher the SNR the greater the ratio of signal to noise. Greater signal and less noise is better, as noise interferes with the ability to understand or properly interpret the signal that is received. (Appx. I, Excerpted Newton's Telecom Dictionary (20th Ed. 2004), at 747.)

87. An "SNR over a range of frequencies" is an "SNR profile." ('682 Patent, 3:57-58.) Each band of frequencies for which the SNR is measured is referred to as a "subcarrier" or "channel." (*Id.*, 4:7-8.) Thus, line 222 in Fig 2B of the '682 Patent (reproduced below) can be the SNR profile of a single cable modem over the range of frequencies from subcarrier 1 ("sub1") to subcarrier 8 ("sub8") (*Id.*, 4:7-8; 4:11-13.) I have included explanatory annotations to the figure in which I assume that line 222 is the SNR profile for a hypothetical cable modem "A" ("CM[A]"). Each step in line 222 is the SNR of CM[A] at one of the subcarriers:

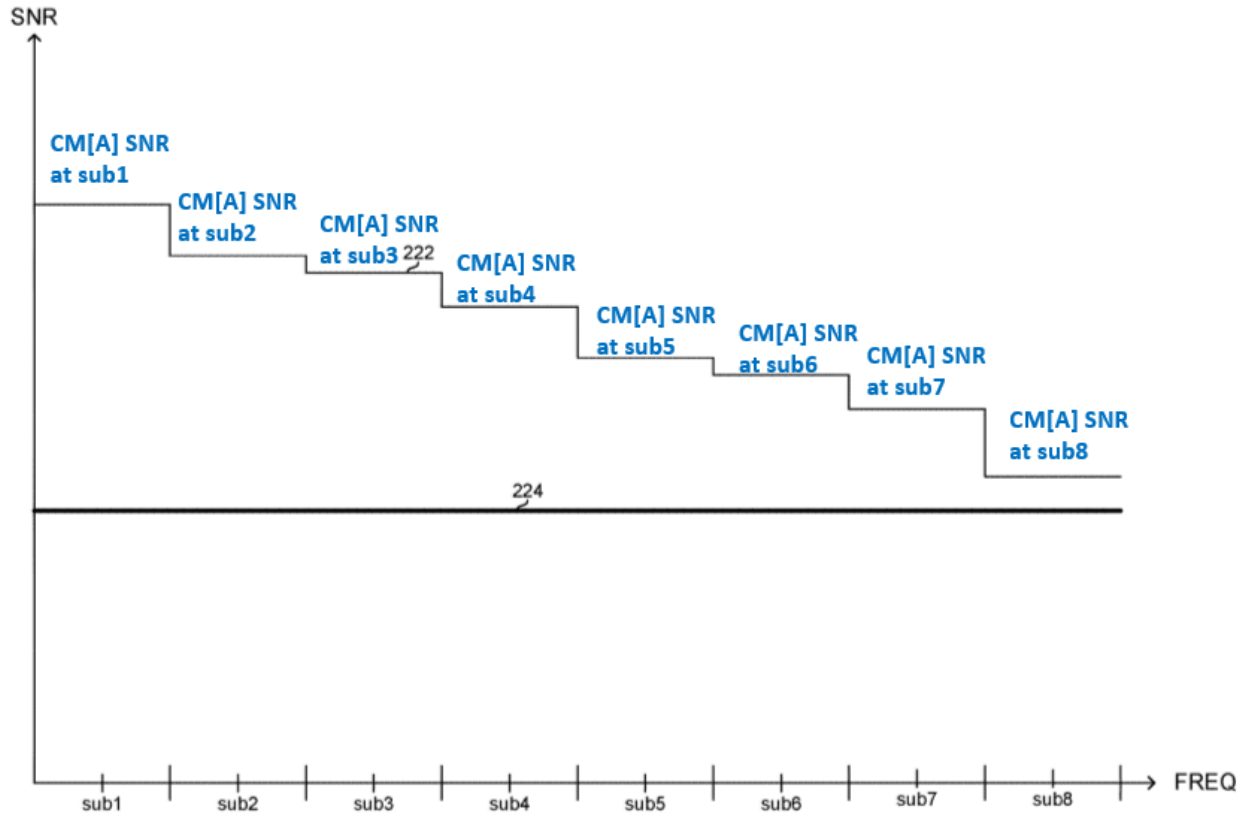

FIG. 2B

88. Each cable modem determines its own SNR profile (*id.*, 5:34-35) and sends that SNR profile to the CMTS. (*Id.*, 5:36-37; Figure 3A step 304.) Pursuant to disclosed embodiments, a CMTS assigns each cable modem to a service group based on the cable modem's SNR profile. (*Id.*, 5:37-39; Figure 3A step 306.)

89. The CMTS then uses a so-called "composite worst-case SNR profile" for each service group to determine how it will communicate with the cable modems in that service group. (*Id.*, 4:9-11; 5:7-12; 5:40-41.) The "composite worst-case SNR profile" for a service group is "the worst case SNR for [each] subcarrier among the CMs in that particular service group." (*Id.*, 5:42-46.)

90. Thus, if there are 5 cable modems (CM[A] - CM[E]) in a hypothetical service group, the "composite worst-case SNR profile" for that service group reflects the worst SNR of all the cable modems in the service group for each subcarrier. I annotate Fig 2B of the '682 Patent to demonstrate

this example. In this example, CM[A] has the worst SNR at subcarriers 2, 5 and 7, CM[B] has the worst SNR at subcarrier 1, CM[C] has the worst SNR at subcarrier 6, CM[D] has the worst SNR at subcarriers 3 and 8, and CM[E] has the worst SNR at subcarrier 4:

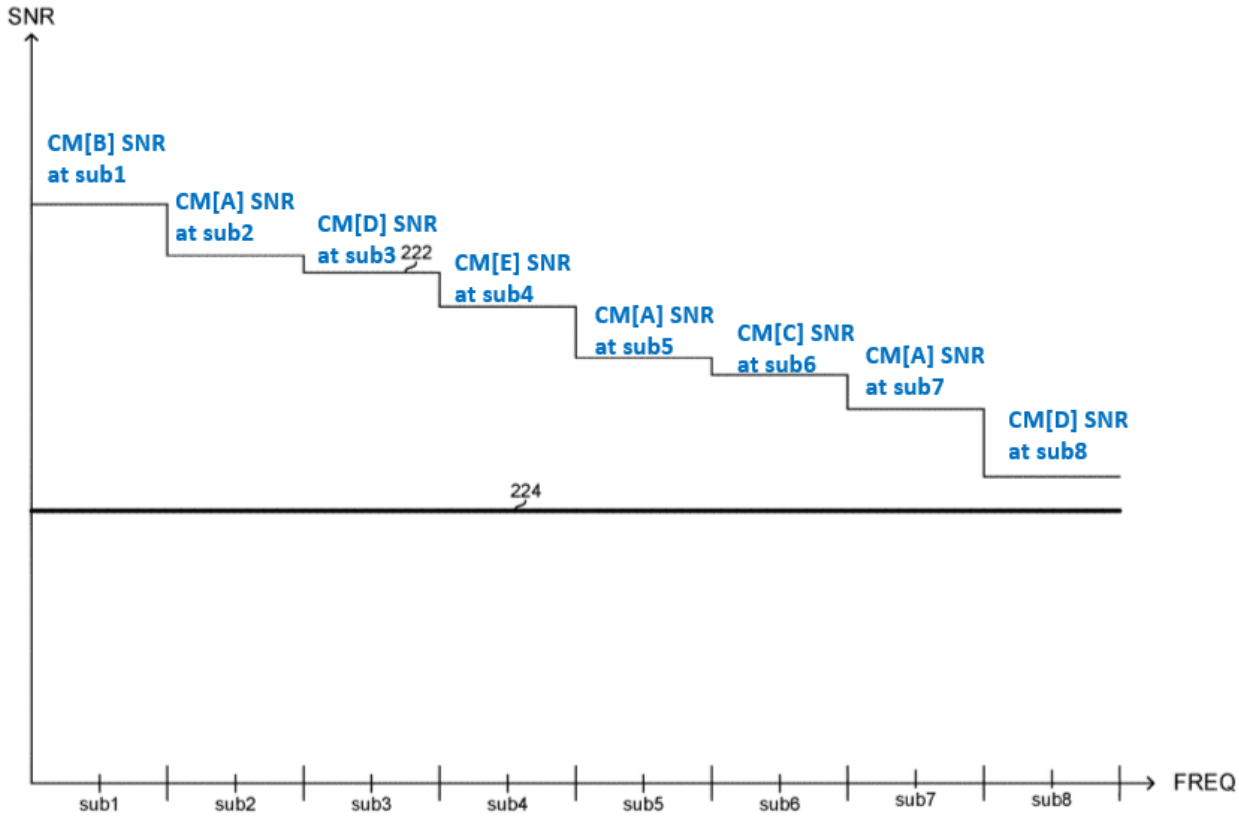

FIG. 2B

91. The need for such a "composite worst-case SNR profile" for each service group stems from the fact that "physical layer communication parameters are determined per service group and per channel/subcarrier." (*Id.*, 5:40-41). In other words, if communication parameters for a subcarrier are selected to accommodate the cable modem having the worst case SNR in the service group, all other CMs in the service group (having better SNRs) will be able to accommodate those communication parameters as well.

92. I note that the phrase "composite worst-case SNR profile" does not have a plain and

ordinary meaning in the art.

B. Claim 1 of the'682 Patent

93. Claim 1 of the '682 Patent does not recite a "composite worst-case SNR profile" for the cable modems in a service group. Instead, it requires generating "a composite SNR-related metric based at least in part on a worst-case SNR profile…" for the cable modems in a service group (*Id.*, 8:12-15.) In other words, a "composite SNR-related metric" is generated from a "worst-case SNR profile," such that the former is in some way "based at least in part on" the latter. As I will explain, this renders the claim indefinite because the "composite SNR-related metric" and the "worst-case SNR profile" must both refer to the disclosed "composite worst-case SNR profile" described in paragraphs 89-92 above.

94. "Worst-case SNR profile" does not have a plain and ordinary meaning in the art. Since the "worst case" SNR is always an SNR of 0, a POSITA seeing the term "worst-case SNR profile" would most likely assume it is an SNR "profile" containing only 0s. In this event, the claim phrase "worst-case SNR profile of said SNR-related metrics…" would be unintelligible. Thus, a POSITA would look to the specification for a meaning of "worst-case SNR profile." As I explain in paragraph 89 above, the specification explains that a "*composite* worst-case SNR profile" for a service group is "the worst case SNR for [each] subcarrier among the CMs in that particular service group." As such, a POSITA would interpret "worst-case SNR profile" as referring to the "composite worst-case SNR profile" described in the specification. Otherwise, the claim is indefinite for the additional reason that there is no way to tell what a "worst-case SNR profile" is.

95. The phrase "composite SNR-related metric" does not have a plain and ordinary meaning in the art and is not used in the specification. However, the specification teaches that an example of a "composite metric" would be a "composite SNR profile." (4:47-49) In view of the

specification, then, a POSITA would understand the claimed "composite *SNR-related* metric" to refer to that "composite SNR profile." And in the specification, the phrase "composite SNR profile" is used as shorthand for "composite worst-case SNR profile" (see e.g. 5:40-6:6 and Fig. 3A; a composite worst case SNR profile is used (5:4-46), which is synonymously referred to as a "composite SNR profile" (Fig. 3A step 308)). Thus, the only meaning a POSITA could ascribe to the claim phrase "composite SNR-related metric" is "composite worst-case SNR profile." Otherwise, the claim is indefinite for the additional reason that there is no way to tell what a "composite SNR-related metric" is.

96. Because "composite SNR-related metric" and "worst-case SNR profile" must both refer to the "composite worst-case SNR profile," however, the claim is indefinite. There is no way to know how the "composite SNR-related metric" can be "based *at least in part on*" the "worst-case SNR profile" since the two refer to the same thing.

97. In addition, although the claimed cable modems are assigned "among a plurality of service groups" (*id.*, 8:7-8), the claim then requires that a number of steps be performed with respect to a particular "said one of said plurality of service groups." (*Id.*, 8:18; 8:21-22.) There is no antecedent in the claim for "said one of said plurality of service groups," and there is no way to know which one service group among the "plurality of service groups" is being referred to. Claim 1 is therefore indefinite for this additional reason.

VIII. RESERVATION OF RIGHTS

98. I reserve the right to respond to any evidence (including expert opinions) that Plaintiff Entropic Communications, LLC may offer in support of its claim construction positions.

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I declare under penalty of perjury that the foregoing is true and correct.